M'Calla. He observes that in habit and compactness of texture this sponge is a *Tethya*, and like the species of that genus it is covered by a distinct skin, but the disposition of the spiculæ is different, and there is no central nucleus. An additional supply of specimens preserved in spirits has enabled me to verify Dr. Johnston's conjecture, and to prove that this sponge should be

When a longitudinal section of this sponge is made, it is seen to consist of three very distinct substances, an epidermis, a parenchyme, and a fibrous axis. The epidermis is very thin, of an olive colour, and not perforated by oscula; the greater part of the sponge consists of a pretty firm orange-coloured substance, permeated by tortuous canals; the axis is white, of a fibrous texture, and easily distinguished from the parenchyme by its colour and structure. From the presence of this fibrous axis, we think this sponge should be removed from the genus *Halichondria* to that of *Tethya*.

This species was originally found at Roundstone by Mr. M'Calla, and it appears to be a common species, for the same indefatigable observer has lately obtained specimens from Belfast Lough, where, as at Roundstone, it is associated with the *Hali*-

chondria ægagropila.

removed to the genus Tethya.

XXVII.—Characters of some undescribed species of Chalcidites. By Francis Walker, Esq., F.L.S.

[Continued from p. 115.]

13. Encyrtus Cervius, mas. Cyaneo-viridis, abdomine nigro, antennis pedibusque piceis, alis limpidis. (Corp. long. lin. ½; alar. lin. 1.)

Body rather narrow, slightly pubescent: head and thorax bluish green, convex, squameous: head transverse, short, rather broader than the thorax; vertex broad; front abruptly declining, slightly impressed: eyes of moderate size, not prominent: ocelli disposed in a triangle on the vertex: antennæ piceous, subclavate, slender, inserted near the mouth, rather longer than the thorax; first joint long, slender; second long-cyathiform; the following joints from the third to the eighth successively though slightly increasing in breadth; club fusiform, more than twice the length of the eighth joint: thorax oval: prothorax transverse, short, narrow in front: scutum of the mesothorax broad; parapsides united to the scutum; axillæ complete; scutellum obconic: propodeon subquadrate, declining, of moderate size: podeon extremely short: abdomen elliptical, depressed, black, smooth, shining, much shorter and narrower than the thorax; metapodeon, octoon and ennaton of moderate size; the following segments very short: legs piceous; mesotibiæ and mesotarsi dilated, and Ann. & Mag. N. Hist. Vol. xvii.

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the former armed with long spines; coxæ green; knees fulvous; protibiæ and protarsi fuscous: wings limpid; nervures fuscous; humerus yellow, much less than half the length of the wing; ulna broad, very short; radius longer than the ulna; cubitus of moderate length, pointing towards the disc of the wing; stigma extremely small.

Found by Dr. Greville near Edinburgh.

14. Encyrtus Meges, fem. Nigro-cupreus, scutello abdominisque basi cupreis, antennis nigris, pedibus nigris, genubus tarsisque fulvis, alis limpidis. (Corp. long. lin. $\frac{2}{3}$; alar. lin. $1\frac{1}{4}$.)

Body stout, dark cupreous: head and thorax convex, finely squameous: head transverse, as broad as the thorax; vertex rather narrow, front not impressed: eyes large, not prominent: ocelli near together, disposed in a triangle on the vertex: antennæ black, clavate, inserted near the mouth, as long as the thorax; first joint long, fusiform, slender toward the base; second long-cyathiform; third very minute; fourth, fifth and sixth small; seventh, eighth and ninth broader; club 3-jointed, fusiform, much broader and rather longer than the three preceding joints: thorax rounded in front, square behind: prothorax transverse, short, convex in front, straight behind: scutum of the mesothorax broad; parapsides united to the scutum; axillæ large, triangular, complete; scutellum bright cupreous, large, obconic, reaching to the base of the abdomen: metathorax, propodeon and podeon very short and broad: abdomen obconic, depressed, smooth, shining, much shorter than the thorax; metapodeon short, bright cupreous, varied with green; octoon and following segments transverse, short: legs stout, black; knees and tarsi fulvous; tips of tarsi piceous; middle tibiæ dilated, fulvous at the tips and armed with long spines; middle tarsi dilated: wings limpid; nervures fulvous; humerus rather less than half the length of the wing; ulna extremely short; radius very short; cubitus longer than the radius; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

Encyrtus Prœcia, mas. Cupreus, scuto viridi, abdomine nigro cupreo, antennis nigris, pedibus fulvis nigro cinctis, alis limpidis. (Corp. long. lin. ½; alar. lin. 1.)

Body slender: head and thorax convex, cupreous, finely squameous: head transverse, a little broader than the thorax; vertex broad; front slightly impressed: eyes of moderate size, not prominent: occili disposed in a triangle on the vertex: antennæ black, slender, filiform, inserted near the mouth, much longer than the thorax; first joint long, slender; second long-cyathiform; third very minute; fourth and following joints to the ninth small, of nearly equal size; club fusiform, as long as the three preceding joints: thorax oval: prothorax transverse, very short: scutum of the mesothorax broad, bluish green; parapsides united to the scutum; axillæ complete; scutellum obconic: metathorax, propodeon and podeon very short: abdomen oval, depressed, smooth, shining, cupreous

black, shorter and narrower than the thorax; metapodeon of moderate size; octoon and following segments short: legs pale fulvous, slender; middle tibiæ and middle tarsi dilated, and the tips of the former armed with long spines; thighs and middle tibiæ striped with black; hind thighs and hind tibiæ black, tips of the latter fulvous; hind knees pale yellow: wings limpid, narrow; nervures yellow; humerus much less than half the length of the wing; ulna and radius extremely short; cubitus longer than the radius; stigma very small.

Var. β . Scutum green, æneous towards the fore border. England. From the collection of the Rev. G. T. Rudd.

16. Encyrtus Peticus, mas. Cyaneo-viridis, scutello cupreo, abdomine nigro, antennis nigris, pedibus flavis viridi cinctis, alis limpidis. (Corp. long. lin. \frac{1}{2}; alar. lin. 1.)

Body nearly linear, somewhat narrow: head and thorax convex, bluish green, finely squameous: head transverse, a little broader than the thorax; vertex broad; front abruptly declining, not impressed: eyes red, of moderate size, not prominent: ocelli forming a triangle on the vertex: antennæ slender, subclavate, black, shorter than the body; first joint long, linear; second long-cyathiform; third and following joints small, successively increasing in breadth until the ninth; club fusiform, broader than the ninth joint and thrice its length: thorax oblong-subquadrate: prothorax transverse, very short: scutum of the mesothorax broad; parapsides united to the scutum; paraptera large, yellow; axillæ triangular, meeting on the dorsum; scutellum obconic, dull cupreous, of moderate size, abruptly declining at the tip: propodeon transverse, short, declining: podeon extremely short: abdomen obconic, depressed, smooth, shining, bluish black, much shorter and rather narrower than the thorax; metapodeon bluish green, of moderate size; octoon and following segments short: legs yellow, long, slender; coxæ green; mesopedes dilated as usual; propedes fulvous; thighs and tibiæ of mesopedes and of metapedes each encircled with a broad green band: tips of the tarsi piceous: wings limpid, rather narrow; nervures fulvous; humerus much less than half the length of the wing; ulna and radius extremely short; cubitus of moderate length, pointing towards the disc of the wing; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

17. Encyrtus Metharma, fem. Cupreus, scuto æneo-viridi, capite thoracisque lateribus rufis, antennis nigris flavo fasciatis, pedibus flavis piceo vittatis, alis limpidis. (Corp. long. lin. ½; alar. lin. 1.)

Body stout: head and thorax convex, finely squameous: head pale red; nearly semicircular, convex in front, slightly impressed behind, as broad as the thorax; vertex narrow: eyes large, not prominent: ocelli disposed in a small triangle, the middle one much in advance of the other two: antennæ clavate, black, inserted near the mouth, longer than the thorax; first joint piceous, long, stout, fusiform; second long-cyathiform; third very minute?; fourth and following

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joints unto the ninth small, successively increasing in breadth; eighth and ninth joints yellow; club 3-jointed, fusiform, as long as the three preceding joints: thorax rounded in front, square behind, æneous green, pale red on each side: prothorax transverse, short, convex in front, straight behind: scutum of the mesothorax broad; parapsides united to the scutum; axillæ large, triangular, complete or meeting together between the scutum and the scutellum; scutellum cupreous, large, obconic: metathorax, propodeon and podeon very short and broad: abdomen obconic, depressed, cupreous, smooth, shining, much shorter than the thorax; metapodeon, octoon, ennaton and decaton of moderate size; protelum, paratelum and telum short: legs yellow; middle tibiæ and tarsi dilated and the former armed with long spines; a broad interrupted piceous band across each thigh and tibia: wings limpid; nervures fulvous; humerus rather less than half the length of the wing; ulna extremely short; radius very short; cubitus longer than the radius; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

18. Encyrtus Genutius, fem. Viridis, scutello cupreo, abdomine purpureo, antennis fulvis apice piceis, pedibus fulvis fusco cinctis, alis limpidis. (Corp. long. lin. $\frac{2}{3}$; alar. lin. $1\frac{1}{4}$.)

Body stout: head and thorax convex, dull green, pilose, finely squameous: head transverse, a little broader than the thorax; vertex broad; front abruptly declining: eyes of moderate size, not prominent: ocelli forming a triangle on the vertex: antennæ clavate, fulvous, piceous toward the tips, inserted near the mouth; first joint long, stout; second long-cyathiform; third and following joints short, successively increasing in breadth until the ninth; club elliptical, piceous, broader than the ninth joint and more than thrice its length: thorax oblong-quadrate: prothorax transverse, very short: scutum of the mesothorax broad, nearly flat on the disc; parapsides united to the scutum; axillæ complete or meeting together on the dorsum; scutellum cupreous, obconic: propodeon transverse, short, declining: podeon extremely short: abdomen obconic, purple, depressed, smooth, shining, rather shorter and narrower than the thorax; metapodeon of moderate size; octoon and following segments short: oviduct subexserted: legs fulvous; mesotibiæ and mesotarsi dilated and the former armed with long spines; coxæ green; thighs and tibiæ and tips of the tarsi fuscous: wings limpid; nervures fulvous; humerus much less than half the length of the wing; ulna fuscous, very short; radius extremely short; cubitus of moderate length, pointing towards the disc of the wing; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

19. Encyrtus Mamertus, mas. Niger, antennis nigris, pedibus fulvis, alis limpidis. (Corp. long. lin. ½; alar. lin. 1.)

Body black, stout, slightly pubescent: head and thorax convex, finely squameous: head transverse, very short, nearly as broad as the thorax; vertex broad; front impressed, abruptly declining: eyes of moderate size, not prominent: occlli near together in a triangle

on the vertex: antennæ black, filiform, pilose, nearly as long as the body; first joint long, fusiform; second long-cyathiform; third very short; fourth and following joints long, linear; club more than twice the length of the ninth joint: thorax oblong-subquadrate: prothorax transverse, very short: scutum of the mesothorax broad; parapsides united to the scutum; axillæ triangular, complete; scutellum obconic; epimera large: propodeon transverse, short, declining: podeon extremely short: abdomen obconic, depressed, smooth, shining, rather shorter and narrower than the thorax; metapodeon of moderate size; octoon and two or three following segments short; the rest very small: legs fulvous, pilose; mesotibiæ and mesotarsi dilated and the former armed with long spines: wings limpid; nervures fulvous; humerus much less than half the length of the wing; ulna very short, broad, fuscous; radius extremely short; cubitus of moderate length, pointing towards the disc of the wing; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

20. Encyrtus Hyettus. Nigro-cyaneus, capite viridi, antennis nigris, pedibus piceis, alis fuscis. (Corp. long. lin. $\frac{3}{4}$; alar. lin. $1\frac{1}{4}$.)

Body short, thick, broad, convex: head transverse, bright green, roughly punctured, a little broader than the thorax; vertex narrow; front abruptly declining, slightly impressed: eyes pubescent, very large: ocelli disposed in a triangle on the vertex: antennæ capitate, pubescent, black, shorter than the thorax; first joint long, slender, produced beneath; the other joints forming a compact fusiform mass: thorax short, dark blue, finely squameous: prothorax not visible: scutum short, broad; parapsides forming one segment with the scutum; scutellum obconic, surrounded by a rim: propodeon short, broad: abdomen broad, shorter than the thorax, to which it is closely joined without any apparent podeon: legs stout, piceous; tarsi paler: wings fuscous; nervures piceous; humerus much less than half the length of the wing; ulna about one-third of the length of the humerus; radius short; cubitus long, not much shorter than the ulna; stigma very small.

Taken in St. Vincent's Island by the late Rev. Lansdown Guilding. In the collection of the Rev. F. W. Hope. This species may be considered as the type of a new genus, for which I propose the name *Enasius*. The ulna is longer than is that nervure in most other *Encyrtidæ*. In the form of the antennæ it approaches *Cerapteroce*-

rus, and in some characters it resembles Eunotus.

21. Elasmus Anticles, fem. Viridis, antennis pedibusque piceis, alis limpidis. (Corp. long. lin. 1; alar. lin. $1\frac{1}{2}$.)

Fem. Body green: head very short: antennæ piceous, shorter than the thorax: thorax convex, coarsely punctured: podeon not apparent: abdomen lanceolate, twice the length of the thorax, depressed above, keeled beneath, decreasing in breadth from the base to the tip: oviduct subexserted: legs piceous, long, slender: wings limpid;

nervures fuscous; ulna nearly twice the length of the humerus; radius short; cubitus not more than half the length of the radius; stig-

ma very small.

Found at Bombay. In the collection of the Rev. F. W. Hope, who possesses a *Tinea* that is infested by two species of *Ichneumonida*; the *Elasmus* and *Entedon Imbreus*, n. s., are also parasites of the *Tinea*, or else lay their eggs in the larvæ of the *Ichneumonidæ* above mentioned. *Elasmus* seems to connect the *Encyrtidæ* with *Eulophus*; the ulna is remarkably long.

22. Eulophus Anaxippus, fem. Cyaneo-viridis, antennis nigris, pedibus viridibus, genubus fulvis, tarsis fuscis basi flavis, protarsis piceis, alis limpidis. (Corp. long. lin. 1; alar. lin. $1\frac{2}{3}$.)

Body slender, pubescent, bright bluish green: head and thorax convex, finely squameous: head transverse, very short, as broad as the thorax; vertex broad; front much impressed, abruptly declining: eyes of moderate size, not prominent: ocelli disposed in a small triangle on the vertex: antennæ subclavate, black, pubescent, as long as the thorax; first joint long, slender, green; second long-cyathiform; third and following joints nearly linear, successively decreasing in length and increasing in breadth; club fusiform, nearly twice the length of the fifth joint: thorax oval: prothorax transverse, very short: scutum of the mesothorax broad; sutures of the parapsides indistinct; axillæ large, triangular, remote from each other; scutellum subrhomboidal: propodeon transverse, short, declining: podeon very short: abdomen elliptical, depressed, smooth, shining, longer than the thorax; metapodeon and following segments of moderate size: legs slender, bluish green; knees fulvous; tarsi fuscous, first joint pale yellow; protarsi piceous: wings limpid, ample; nervures fuscous; humerus much less than half the length of the wing; ulna shorter than the humerus; radius nearly as long as the ulna; cubitus long, but less than half the length of the radius; stigma very small, emitting a short branch.

August, near Dover.

23. Entedon Fufius, fem. Viridis, abdominis disco nigro-cupreo, antennis nigris, pedibus viridibus, genubus tibiisque apice albis, tarsis fuscis basi albis, protarsis piceis, alis subfuscis. (Corp. long. lin. $\frac{3}{4}$; alar. lin. $1\frac{1}{4}$.)

Body green: head and thorax convex, finely squameous: head transverse, a little broader than the thorax; vertex broad; front abruptly declining, not impressed: eyes of moderate size, not prominent: occill disposed in a triangle on the vertex: antennæ clavate, black, pubescent, as long as the thorax; first joint long, slender, green; second long-cyathiform; the following joints from the third to the fifth successively shorter and broader; club conical, longer than the preceding joint: thorax oval: prothorax transverse, very short: scutum of the mesothorax broad; sutures of the parapsides indistinct; axillæ triangular, of moderate size, remote from each other; scutellum rhomboidal: propodeon transverse, shining, rugulose, declining:

podeon short: abdomen elliptical, depressed above, keeled beneath, rather longer but not broader than the thorax; disc dark cupreous; metapodeon and following segments of moderate size: legs slender, green; coxæ and thighs squameous; knees and tips of the tibiæ white; tarsi fuscous, white towards the base; protarsi piceous; wings slightly fuscous; nervures fuscous; humerus less than one-third of the length of the wing; ulna much longer than the humerus; radius and cubitus very short, the former a little longer than the latter; stigma of moderate size.

August, near Dover.

24. Entedon Cœdicius, mas. Viridi-cupreus, antennis piceis, pedibus albidis, alis limpidis. (Corp. long. lin. \(\frac{2}{3}\): alar. lin. \(\lambda\frac{1}{3}\).

Bright, broad, rather short, cupreous, varied with green: head and thorax convex: head transverse, as broad as the thorax, very finely squameous, almost smooth; vertex broad; front abruptly declining, not impressed: eyes of moderate size, not prominent: ocelli disposed in a triangle on the vertex: antennæ setaceous, slender, piceous, inserted near the mouth; first joint long, slender, fulvous; second longcyathiform; third and following joints nearly linear; club fusiform, acuminated, longer than the preceding joint: thorax oval, finely squameous: prothorax very short: scutum of the mesothorax broad; sutures of the parapsides distinct, approaching each other towards the scutellum; axillæ triangular, of moderate size, remote from each other; scutellum rhomboidal, rather large: propodeon large, obconic, declining, rugulose: podeon distinct, equal in length to onefourth of the abdomen: abdomen depressed, smooth, shining, rather broader than long, as broad as the thorax but less than half its length; metapodeon of moderate size; octoon and following segments to the protelum each shorter than the metapodeon; paratelum and telum very short : legs white ; tips of the tarsi fuscous : wings limpid ; forewings broad; nervures yellow; humerus less than one-third of the length of the wing; ulna much longer than the humerus; radius less than one-fourth of the length of the ulna; cubitus much shorter than the radius; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

25. Entedon Nautius, mas. Cyaneo-viridis, abdominis disco æneo, antennis nigris, pedibus stramineis, alis limpidis. (Corp. long. lin. 1; alar. lin. 1½.)

Body nearly linear, bright bluish green: head and thorax convex, finely squameous: head transverse, short, as broad as the thorax; vertex broad; front impressed, abruptly declining: eyes of moderate size, not prominent: ocelli disposed in a triangle on the vertex: antennæ setaceous, black, pubescent, much shorter than the thorax; first joint long, slender, fulvous; second long-cyathiform; third large; fourth and following joints nearly linear; club fusiform, acuminated: thorax oval: prothorax transverse, very short: scutum of the mesothorax broad; sutures of the parapsides distinct, slightly approaching each other towards the scutellum; axillæ triangular, small, sepa-

rated from each other by nearly the whole breadth of the dorsum; scutellum rhomboidal: propodeon transverse, subquadrate, rugulose, shining, decumbent, of moderate size: podeon very short: abdomen nearly linear, depressed, shining, very finely squameous, narrower than the thorax and hardly more than half its length; disc æneous; metapodeon bright blue towards the base; octoon, ennaton and decaton of moderate size, each rather shorter than the metapodeon; protelum, paratelum and telum short: legs very pale yellow; tips of the tarsi fuscous: wings limpid; fore-wings broad; nervures fulvous; humerus less than one-third of the length of the wing; ulna much longer than the humerus; radius about one-fourth of the length of the ulna; cubitus very short, not more than one-half of the length of the radius; stigma very small.

England. From the collection of the Rev. G. T. Rudd.

26. Entedon Glabrio, mas. Nigro-viridis, abdomine cupreo, antennis nigris, pedibus flavis, femoribus viridibus, alis limpidis. (Corp. long. lin. $\frac{2}{3}$; alar. lin. 1.)

Body narrow, nearly linear: head and thorax convex, dark green, finely squameous: head transverse, short, a little broader than the thorax; vertex broad; front much impressed: eyes of moderate size, not prominent: ocelli disposed in a triangle on the vertex: antennæ filiform, stout, pubescent, black, as long as the thorax; first joint long, stout, fusiform; second small; third, fourth and fifth nearly equal in size; club fusiform, acuminated, longer than the preceding joint: thorax oval: prothorax very short: scutum of the mesothorax broad; sutures of the parapsides distinct, approaching each other towards the scutellum; axillæ triangular, of moderate size, remote from each other; scutellum rhomboidal: propodeon obconic, declining, rugulose: podeon very short: abdomen conical, depressed, smooth, shining, cupreous, æneous green towards the base, narrower and much shorter than the thorax; metapodeon of moderate length; octoon and following segments each shorter than the metapodeon: legs fulvous; coxæ and thighs green; tips of the tarsi fuscous: wings limpid; nervures fuscous; humerus less than one-third of the length of the wing; ulna much longer than the humerus; radius rather more than one-fourth of the length of the ulna; cubitus not more than half the length of the radius; stigma small.

England. From the collection of the Rev. G. T. Rudd.

27. Entedon (Pediobius) Imbreus, fem. Niger, cyaneo et viridi varius, antennis nigris, pedibus cyaneo-viridibus, tarsis albis, alis limpidis. (Corp. long. lin. $\frac{2}{3}$; alar. lin. 1.)

Body convex, black, shining here and there with blue or green: head and thorax finely squameous: head transverse, as broad as the thorax; front convex, not impressed: eyes of moderate size, not prominent: ocelli disposed in a triangle on the vertex: antennæ clavate, black, shorter than the thorax: thorax oval: prothorax transverse, short, narrower in front: scutum transverse; sutures of the parapsides indistinct; scutellum obconic: propodeon short, declining: po-

deon short: abdomen elliptical, smooth, shining, a little narrower but not longer than the thorax; metapodeon longer; octoon and following segments short: legs bluish green; tarsi white, their tips piceous: wings limpid; nervures fulvous; humerus not more than one-third of the length of the wing; ulna as long as the humerus; radius short; cubitus very short; stigma very small.

Found at Bombay. In the collection of the Rev. F. W. Hope. It belongs to the section of *Entedon* which I have named *Pediobius*, comprising *E. Alaspharus*, *Eubius*, *Amyntas*, *Epigonus* and other species. See Monogr. Chalciditum, i. 109.

28. Scelio Acte, fem. Niger, antennis nigris basi fulvis, pedibus fulvis, femoribus fusco fasciatis, alis limpidis. (Corp.long.lin. 2.)

Body black, long: head and thorax convex, rugulose: head transverse, as broad as the thorax; vertex broad; front not impressed: eyes of moderate size, not prominent: antennæ black, subclavate, as long as the thorax, inserted near the mouth; first joint long, stout, fulvous; second joint fulvous, long-cyathiform; third long-cyathiform; fourth and following joints forming a fusiform club: thorax oval: prothorax very short: scutum of the mesothorax large; scutellum small: propodeon transverse, declining: podeon short: abdomen flat, fusiform, striated, rather narrower and much longer than the thorax: legs fulvous; coxæ black; a broad piceous band across each of the femora; joints of the tarsi from the first to the fourth successively decreasing in length; fifth joint as long as the fourth: wings limpid.

Found at Bombay. In the collection of the Rev. F. W. Hope.

XXVIII.—On the Development of Starch and Chlorophylle Granules. By Carl Nägeli*.

In the actual punctum vegetationis there is nothing but a homogeneous mucilage (protoplasma of Mohl). This becomes finely granular in the lower part; it is here that the deposition of the fibres occurs. If we examine the fluid of the cell from this part (the fibre zone) of a young leaf or stem, we find in it very small granules, the diameter of which does not exceed '003 of a line, and in these consequently nothing is to be made out. In the vicinity are cellules or utricles of from '001 to '0025 of a line; they are filled with a thin yellowish mucilage, which, in the smaller appears homogeneous, in the larger finely granular. Somewhat lower down (the starch zone) the formation of amylum takes place; the young leaf there becomes of a shining white colour. The cell-

^{*} From the memoir on Caulerpa prolifera, by Carl Nägeli. Zeitschrift für Wissenschaftliche Botanik, von M. J. Schleiden and Carl Nägeli, Erster Band, Erstes Heft, 1845, p. 149 et seq. Communicated by Arthur Henfrey, F.L.S. &c.